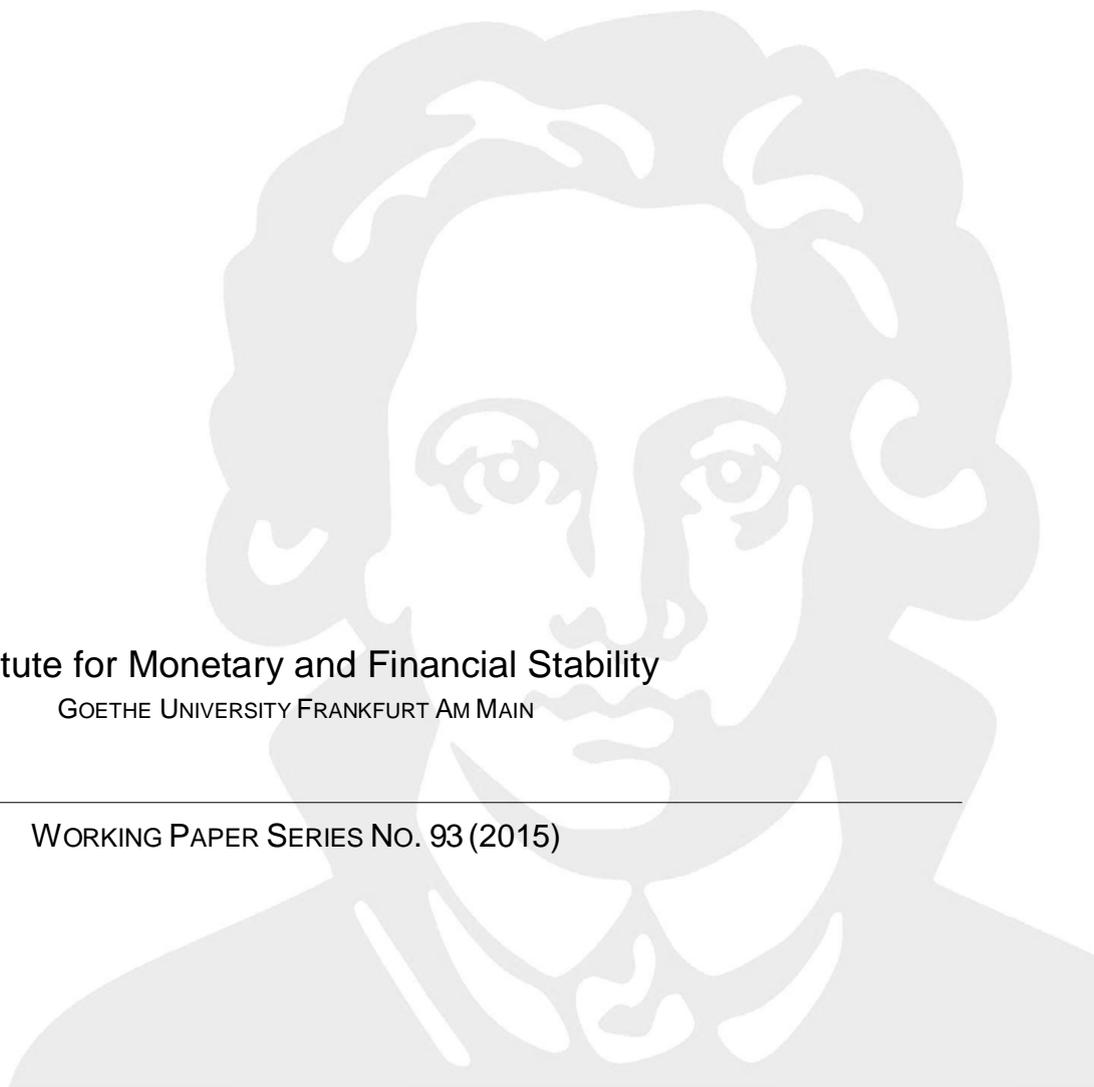


TOBIAS H. TRÖGER

Regulatory Influence on Market Conditions
in the Banking Union

Institute for Monetary and Financial Stability
GOETHE UNIVERSITY FRANKFURT AM MAIN

WORKING PAPER SERIES No. 93 (2015)



This Working Paper is issued under the auspices of the Institute for Monetary and Financial Stability (IMFS). Any opinions expressed here are those of the author(s) and not those of the IMFS. Research disseminated by the IMFS may include views on policy, but the IMFS itself takes no institutional policy positions.

The Institute for Monetary and Financial Stability aims at raising public awareness of the importance of monetary and financial stability. Its main objective is the implementation of the "Project Monetary and Financial Stability" that is supported by the Foundation of Monetary and Financial Stability. The foundation was established on January 1, 2002 by federal law. Its endowment funds come from the sale of 1 DM gold coins in 2001 that were issued at the occasion of the euro cash introduction in memory of the D-Mark.

The IMFS Working Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

Institute for Monetary and Financial Stability

Goethe University Frankfurt

House of Finance

Theodor-W.-Adorno-Platz 3

D-60629 Frankfurt am Main

www.imfs-frankfurt.de | info@imfs-frankfurt.de

Regulatory Influence on Market Conditions in the Banking Union

THE CASES OF MACRO-PRUDENTIAL INSTRUMENTS AND THE BAIL-IN TOOL
(June 2, 2015)

Tobias H. Tröger

Professor of Private Law, Trade and Business Law, Jurisprudence
Goethe-University, Frankfurt am Main, Department of Law
Theodor-W.-Adorno Platz 3
60629 Frankfurt am Main
Germany
Phone +49 69 798 34236
Fax +49 69 798 34536
troeger@jur.uni-frankfurt.de

Abstract: This paper looks into the specific influence that the European banking union will have on (future) bank client relationships. It shows that the intended regulatory influence on market conditions in principle serves as a powerful governance tool to achieve financial stability objectives.

From this vantage, it analyzes macro-prudential instruments with a particular view to mortgage lending markets – the latter have been critical in the emergence of many modern financial crises. In gauging the impact of the new European supervisory framework, it finds that the ECB will lack influence on key macro-prudential tools to push through more rigid supervisory policies vis-à-vis forbearing national authorities.

Furthermore, this paper points out that the current design of the European bail-in tool supplies resolution authorities with undue discretion. This feature which also afflicts the SRM imperils the key policy objective to re-instill market discipline on banks' debt financing operations. The latter is also called into question because the nested regulatory technique that aims at preventing bail-outs unintendedly opens additional maneuvering space for political decision makers.

JEL classification: E44, G01, G18, G21, G28, K22, K23.

Keywords: banking union; macro-prudential supervision; real estate lending; bail-in; market discipline

Regulatory Influence on Market Conditions in the Banking Union

The cases of macro-prudential instruments and the bail-in tool

Tobias H. Tröger*

1	Introduction.....	1
2	The implementation of macro-prudential policies in the banking union	2
2.1	Objectives and instruments of macro-prudential policies in a broader context	3
2.1.1	The operation of macro-prudential supervision through banks' balance sheets and its relation to monetary policy	3
2.1.2	The importance of a macro-prudential moderation of (unconventional) monetary policy measures.....	3
2.2	Real estate (mortgage) markets as a particular example	4
2.2.1	The importance of mortgage lending.....	4
2.2.2	Macro-prudential tools targeting excessive credit growth	4
2.2.3	Effectiveness of macro-prudential tools in cooling-down overheated real-estate markets.....	6
2.3	Competences in macro-prudential supervision within the banking union	7
2.3.1	The role of the ESRB within the SSM.....	8
2.3.2	The ECB's role in macro-prudential supervision.....	9
3	Re-instilling market discipline through the bail-in tool.....	10
3.1	Implicit government guarantees for bank capital (bail-out)	11
3.2	Regulatory intervention to re-instill market discipline (bail-in)	11
3.3	Preconditions for an effective bail-in tool.....	11
3.4	Key problems of bail-in tool	12
4	Conclusion	14
5	References.....	14

1 Introduction

Banks' activities depend on conditions that prevail on markets where they provide financing for clients or source funding for their business. Policy makers may rely on regulatory instruments that influence either the asset side or the liability side of a bank's balance sheet (or both) in order to achieve their stability objectives: changes in banks' refinancing needs and/or conditions influence these institutions' investment decisions and thus determine scope and price of services offered to future clients. Prudential tools of this type appear particularly attractive if social planners seek to

* Professor of Private Law, Trade and Business Law, Jurisprudence, Goethe University Frankfurt am Main, Research Center Sustainable Architecture for Finance in Europe (SAFE). Associated Professor Institute of Monetary and Financial Stability (IMFS), Frankfurt am Main, Germany. This paper has benefited from critique and comments offered by friends, colleagues and seminar participants at the European University Institute and the European Banking Law Association's Annual Meeting 2014. Those of Jens Binder, Andreas Engert, Cordelius Ilgmann, Sven Schelo, and Chiara Zilioli were particularly beneficial. I gratefully acknowledge research support from the Research Center SAFE, funded by the State of Hesse initiative for research LOEWE.

address banks' excessive lending or their risk-insensitive funding. The pursuit of policy objectives that transcend individual actors' interests and their indirect implementation through intentional changes in the framework conditions of (market) behavior hints at the governance dimension of the underlying regulatory strategy.¹

Macro-prudential supervision seeks to dampen activity levels on those lending markets that are seen to be exaggerating. It aims at safeguarding financial stability—narrowly understood as the soundness of the banking sector or more broadly construed as the stability of the economy and the financial system through the cycle²—by influencing the specific conditions for lenders/borrowers whereas monetary policy is geared towards impacting on the general financial conditions of the economy.

Quite similar, mandatory creditor participation (bail-in) strives to re-instill market discipline where pricing of bank-debt is regarded as distorted. By compelling the private sector to absorb the losses failing financials incur, the bail-in instrument is targeted on undoing implicit government guarantees for certain institutions and inducing markets to price bank-debt according to default probabilities only. As a result, banks' business activities that benefitted from risk-insensitive funding will be re-scaled in accordance with their discrete risk-return profiles.

The banking union momentarily modifies at least the implementation of the rules that provide both tool-kits and thus exercises an indirect, yet powerful influence on banks' relationships with (future) clients. This paper analyzes the pertinent regulatory mechanisms from this vantage and pays particular attention to the efficacy of the institutional arrangements in the banking union.

2 The implementation of macro-prudential policies in the banking union

This section assesses the specific impact of the banking union on future contractual relations between banks and clients with a particular view to macro-prudential supervision. It sets the ground by delineating the operation of macro-prudential instruments and their interrelation with monetary policy.³ It continues with identifying real-estate mortgage markets as a particular example where effective macro-prudential supervision may indeed contribute significantly to safeguarding financial stability.⁴ Against this background it gauges the effectiveness of the allocation of competences between national and supranational institutions in the banking union and whether it will impact on bank-client relationships in a socially beneficial manner.⁵

¹ For surveys of the varying definitions of the subject employed in contemporary governance-research see e.g. Pierre 2000, pp. 3-6; Kjaer 2004, pp. 3-7; Williamson 2005; Burries et al. 2008, pp. 7-12.

² For a description of macro-prudential supervision's different policy objectives see Borio 2003, pp. 183-185 and 2009, pp. 32-33; Hanson et al. 2011, pp. 5-7; Dewatripont and Tirole 2012, pp. 239, 249-250; Bank of England 2009, pp. 9-10; European Central Bank (ECB) 2010, pp. 130-131; Bank for International Settlements (BIS) 2011, pp. 31-33.

³ *Infra* 2.1.

⁴ *Infra* 2.2.

⁵ *Infra* 2.3.

2.1 Objectives and instruments of macro-prudential policies in a broader context

2.1.1 The operation of macro-prudential supervision through banks' balance sheets and its relation to monetary policy

In the broadest sense, macro-prudential supervision is a manifestation of the public governance of bank-client relationships that influences resource allocation in decentralized decisions (contracting). It determines the framework parameters of specific transactions and does so in order to promote the common good, i.e. the constant and reliable functioning of the financial system, mainly its liquidity supply function. In that sense, macro-prudential policy appears *prima vista* heteronomous, although the system's stability is ultimately in the collective interest of all agents transacting on financial markets. More importantly, in its mode of operation, macro-prudential supervision is akin to monetary policy and is also closely linked in its objectives.

In the standard model, monetary policy impacts on the general financial conditions for the economy.

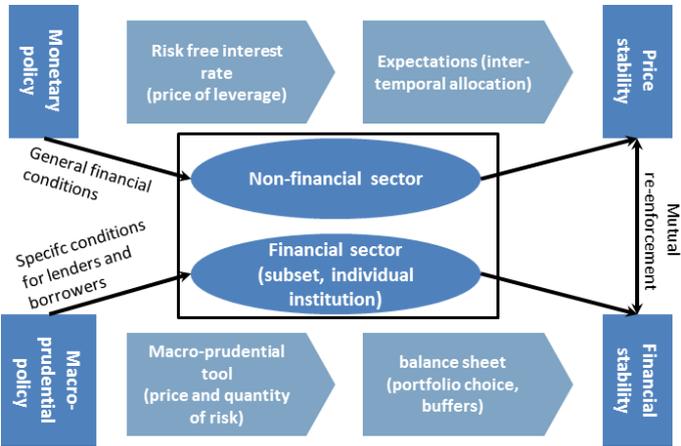


figure 1 – transmission of monetary and macro-prudential policies

It sets the risk-free interest rate and thus immediately influences the price of leverage. The pertinent expectations determine agents' inter-temporal allocation of consumption which in turn is the key control mechanism to achieve price stability.⁶ Quite similar, macro-prudential policy shapes the specific conditions for lenders and borrowers, in other words it targets exclusively the financial sector. Macro-prudential tools set the price and quantity of risk-taking for banks. They work mainly through the balance sheet by influencing portfolio choices and requiring capital buffers. Their ultimate goal is to bolster financial stability which stands in a mutually reinforcing relationship with price stability (see figure 1⁷).

2.1.2 The importance of a macro-prudential moderation of (unconventional) monetary policy measures

Quantitative easing (QE), that comes in the euro-area as the ECB's Public Sector Purchase Programme (PSPP)⁸ is supposed to work through portfolio rebalancing. The increased liquidity of private sector agents who look for alternative investment options will also raise the prices of – at least – other fixed income securities and thus generate broader welfare effects. The latter will boost demand which is the intended consequence from a monetary policy point of view. However, it also breeds the potential for bubbles and crashes on overheated asset markets and thus may endanger financial instability. As a consequence, the pertinent (unconventional) monetary policy measures

⁶ For a description of this concept, which is formative for today's self-perception of central banks see Woodford 2005, Morris and Shin 2008.

⁷ Adapted from Lautenschläger 2014. For more detailed „transmission maps“ that delineate the implementation channels through which macro-prudential tools work see Committee on the Global Financial System (CGFS) 2012, pp. 20, 25, 28.

⁸ Cf. ECB 2015.

require a macro-prudential policy counterweight⁹ which does not cancel-out the desired impact of QE on price stability but moderates its latent negative effects on financial stability.

2.2 Real estate (mortgage) markets as a particular example

2.2.1 The importance of mortgage lending

Through the ages, excessive credit-growth, unsustainable developments in real estate markets and the built-up of leverage in the private sector have represented the paving stones on the road to financial crises.¹⁰ Moreover, the relative importance of sustainable real estate lending for financial stability has increased over the last 20 years.¹¹ Against this background, a litmus test for the new supervisory architecture can be seen in its suitability to cool down overheated real-estate markets by dampening mortgage lending in particular. In other words, the impact that the implementation of macro-prudential policies will exert on pertinent (future) bank-client contracts in the banking union is a key indicator for the overall effectiveness of the institutional arrangement.

2.2.2 Macro-prudential tools targeting excessive credit growth

Given the interrelation of financial fragility and exaggerated (mortgage) lending,¹² those macro-prudential tools that target excessive credit growth in the relevant sector deserve attention.¹³ With a view to the division of supervisory competences,¹⁴ it is quite important to notice that the diverse legal bases for these macro-prudential tools are rooted in both supranational¹⁵ and national banking regulation (see table 1).

The first and foremost instrument to attenuate pro-cyclical credit developments is the countercyclical capital buffer (CCB).¹⁶ It aims at enhancing banks' resilience in times of excessive credit growth and – at the same time – has price effects apt to dampen lending booms: the CCB will increase the

⁹ If QE operates in fact only via the exchange-rate as a beggar-thy-neighbor policy (cf. Korinek 2014, p. 27-28), the counterbalance is of less immediate importance.

¹⁰ For historical accounts see Reinhart and Rogoff 2009; Borio and Drehmann 2009.

¹¹ Jordà et al. 2014 show in a comparative survey of 17 countries for the period of 1870-2011 that the volume of mortgage lending has surpassed other credit operations of banks in a historically unprecedented manner since the mid-1990s.

¹² Supra 2.1.1.

¹³ Table 1 summarizes the main features. For a detailed description of macro-prudential instruments see European Systemic Risk Board (ESRB) 2014, pp. 26-162; with a particular view to real-estate lending *ibid.*, pp. 51-65.

¹⁴ See *infra* 2.3.2.

¹⁵ The main legal bases in European law are Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC [hereinafter: CRD IV], OJ L 176, 27.6.2013, p. 338 and Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 [hereinafter: CRR], OJ L 176, 27.6.2013, p. 1. Despite the differences in the legal nature of these legislative instruments (cf. Treaty on the Functioning of the European Union (consolidated version) [hereinafter: TFEU], art. 288, OJ C 326, 26.10.2012, p. 47), the practical differences in the supervisory implementation of European prudential banking regulation should not vary dramatically. CRD IV aims at maximum harmonization and is highly prescriptive. It thus leaves only limited space for variation among the implementing Member States, but see also Ferrarini and Chiarella 2013, pp. 52-53. On the special situation within the Single Supervisory Mechanism (SSM) where the ECB safeguards the uniform application of harmonized law see *infra* note 52 and Tröger 2014, pp. 484-485.

¹⁶ CRD IV, art. 130. The specifics for setting and calculating CCBs are delineated in CRD IV, arts. 135-140. Importantly, CCBs of up to 2.5% of Common Equity Tier 1 (CET1) are subject to mandatory reciprocity, whereas higher CCBs can be recognized by other Member States, CRD IV, art. 137.

cost of credit because more equity will be needed to further expand lending.¹⁷ Akin in operation, yet geared towards non-cyclical, long-term systemic risks is the systemic risk buffer (SRB) which can be targeted at specific banks, for instance those with critical real estate exposures.¹⁸ Moreover, in the application of the Supervisory Review and Evaluation Process (SREP) the competent supervisor may impose, as a Pillar II measure, additional capital requirements on those institutions that share similar risk profiles if their parallel exposures, business models etc. potentially imperil financial stability.¹⁹ Finally, the residual competence conferred upon designated macro-prudential authorities to implement stricter measures to counter changes in the intensity of macro- or systemic risks that are not addressed by other prudential measures in CRD IV/CRR (national flexibility measures), allows – subject to demanding procedures and the presentation of conclusive evidence – *inter alia* to increase own funds requirements.²⁰

Another capital-based, yet indirect way of influencing the cost of credit is an increase in the relevant multipliers for calculating own funds requirements. Under the standardized approach, supervisors can increase risk weights up to 150% for financial stability reasons if loss experience and forward looking market developments so suggest.²¹ Again, both Pillar II and national flexibility measures can be implemented to the same effect and allow to raise risk weights even beyond 150%.²² Similarly, if financial stability concerns command tightening lending conditions, banks that use an internal ratings-based (IRB) approach to calculate their regulatory capital requirements can be forced to use higher minimum loss given default (LGD) values in their models.²³ LGDs can also be influenced through Pillar II and national flexibility measures, for instance by raising the floor on LGDs used to calculate risk weights in the relevant formulas.

Finally, limits on lending activities like maximum loan-to-value (LTV), loan-to-income (LTI), or debt-service-to-income (DSTI) ratios can serve as direct measures to curb leveraged growth in asset markets. Despite calls for an EU-wide harmonization of these instruments that would enhance the capacity to capture the systemic dimensions of asset bubbles,²⁴ the current EU regulatory framework only refers to LTV and LTI limits as preconditions for relying on advantageous risk-weights under the standardized approach for fully and completely mortgage secured exposures.²⁵ Hence, direct limits on lending activities based on LTV, LTI or DSTI remain subject to national rules and procedures.²⁶ The same is true with regard to leverage ratios that can be understood as a failsafe for risk-based capital buffers in countering cyclical or structural systemic risks.

¹⁷ The effect hinges only partly on the assumption that equity is more costly than debt, cf. on this pecking order theory in corporate finance Myers and Majluf 1984; on the policy implications see also Admati and Hellwig 2013, pp. 100-114. The key presupposition is instead that *ceteris paribus* reduced leverage (higher capital requirements) decreases potential payouts for residual claimants and thus disincentivizes additional risk taking.

¹⁸ CRD IV, art. 133. CRD IV, art. 134 allows for a reciprocal implementation of the SRB.

¹⁹ CRD IV, arts. 103, 104(1)(a).

²⁰ CRR, art. 458(2)(d)(i). National flexibility measures are not subject to mandatory reciprocity, cf. CRR, art. 458(5).

²¹ CRR, art. 124(2). The provision also allows to tighten other criteria for real estate exposures, for instance to tie preferential risk weights to stricter loan-to-value ratios for secured residential or commercial real estate lending.

²² Cf. CRD IV, arts. 103, 104(1)(a) and CRR, art. 458(2)(d)(vi).

²³ CRR, art. 164(5).

²⁴ High-level Expert Group on reforming the structure of the EU banking sector 2012, p. 81.

²⁵ CRR, arts. 125(2)(d), 126(2)(d).

²⁶ For an overview on Member States' practices regarding LTV limits see ESRB 2014, p. 200.

(macro-prudential) instrument	legal basis	objective
CCB	CRD IV arts. 130, 135-140	Enhance banks' loss absorption capacity (higher resilience) and increase funding costs to slow down credit growth/moderate financial cycle (lower vulnerability)
SRB	CRD IV arts. 133, 134	
Own funds, capital conservation buffer requirements	pillar 2 (SREP), CRR art. 458	
Sectoral requirements for specific exposures (e.g. increased risk weights, minimum LGD values)	CRR arts. 124, 164, pillar 2 (SREP), CRR art. 458	
LTV cap LTI/DSTI cap	national law	direct restriction of lending to decrease banks' LGD and borrower's PD
Leverage ratio	national law	Limit banks' leverage (failsafe for risk-based capital buffers)

Table 1 - macro-prudential tools targeting excessive credit growth

2.2.3 Effectiveness of macro-prudential tools in cooling-down overheated real-estate markets

The effectiveness of the macro-prudential tools just described varies in the context of real estate lending.

Capital buffers as such arguably are not very effective in highly collateralized markets. This point is not oblivious of the fact that the pertinent buffers can reach sizeable proportions: even under the EU Commission's assumption that does not include the possibilities for exceptional increases of certain buffers,²⁷ they can amount to 9.5% of additional CET1.²⁸ However, the extra capital has to be held against risk-weighted assets which is why the buffers' effect is limited with regard to highly collateralized real estate loans. Even maxing-out the buffer rates wouldn't lead to tremendous increases in the capital to be held against the loan: in fact, even under the standardized approach, less than three and a half percent of the exposure value²⁹ of a residential mortgage secured loan would have to be

²⁷ EU Commission 2013, p. 14.

²⁸ With the assumed upper bounds the CCB can amount to 2,5% of CET1, the SRB to 5% of CET1 and the national macro flexibility buffer to 2% of CET1.

²⁹ The accounting value of the loan is modified by credit risk adjustments to yield the exposure value, see CRR, art. 110, 111.

held in additional CET1.³⁰ Under the IRB approach, risk-weights can be expected to be significantly lower.³¹

Moreover, capital buffers may have unintended consequences because they apply to supervised entities (banks) and thus can hardly be tailored in a market or transaction specific manner. At the margin, higher own funds requirements steer lending activities to credit markets where extended loans carry lower risk weights: as own funds ratios have to be multiplied with the applicable risk-weights to determine actual regulatory capital requirements for specific assets,³² any lending activity that creates balance sheet positions with risk-weights higher than those of (collateralized) real-estate loans becomes less attractive for banks and/or makes borrowing for clients relatively more expensive if banks can pass-on the higher refinancing costs.³³ As a consequence, where targeted banks do not have real estate-centered business models, increased buffers may even result in relatively more lending on overheated mortgage markets.³⁴

To be sure, the additional capital requirements are not trivial and may have a marginal effect also on credit growth in real estate markets. However, with a view to the specifics of these markets, it is quite plausible that indirect measures like a significant increase in risk-weights are far more effective because they eliminate the leveling effect of collateral that afflicts macro-prudential tools that ultimately rely on own funds requirements.³⁵ Similarly, outright caps on lending activities (LTV, LTI, DSTI) and a leverage ratio are more effective macro-prudential tools in these environments.

2.3 Competences in macro-prudential supervision within the banking union

To assess if the banking union as such has a discrete impact on future bank-client relationships also through macro-prudential instruments brought to bear on key markets,³⁶ a closer look at the allocation of pertinent competences between national and supranational supervisory bodies is necessary. The momentum of the new institutional framework depends critically on the ECB's position *vis-à-vis* both the European Systemic Risk Board (ESRB) and national competent authorities (NCAs). Only insofar as the ECB as the central authority in the Single Supervisory Mechanism (SSM) can play a strong and independent role in macro-prudential policy as well, will the situation within the banking union diverge from that in the EU 28.

³⁰ The pertinent risk-weight is set at 35%, CRR Art. 125(1). It constitutes the relevant multiplier for the maximum buffer rate of 9.5% of CET1.

³¹ In a speech delivered on March 11 at the ECB and Its Watchers Conference 2015, Bank of Finland Governor Erkki Liikanen referred to an average risk-weight of 10% for real-estate loans which would squeeze additional CET1 needed to less than one percent.

³² *Supra* note 30.

³³ Under the standardized approach for instance, (commercial) loans with a maturity of more than three months to institutions with a recognized credit rating of good-to-medium quality (credit quality step 2 or 3 out of 6) carry a risk-weight of 50%, cf. CRR art. 120(1). Thus, with macro-prudential buffers set at maximum ratios (*supra* note 28), banks would have to hold 4.75% of additional CET1 against these loans, making lending either relatively less profitable for banks or more costly for clients accordingly. Hence, the dampening effect of the pertinent macro-prudential measures will be stronger on these markets than it is on residential mortgage markets (see *supra* note 30 and accompanying text).

³⁴ For the underlying theorems see *supra* note 17.

³⁵ Assigning a risk weight of 150% to residential mortgage secured loans (instead of 35%, *supra* note 30) will more than quadruple the level of CET1 to be held against the exposure value, raising it from 2.8% to 12% CET1.

³⁶ *Supra* 2.2.1.

2.3.1 The role of the ESRB within the SSM

At the outset, it is important to observe that the ESRB assumes the role of the paramount supranational macro-prudential player in the EU also in relation to the ECB.³⁷ As a consequence, the ECB does not enjoy full autonomy in the implementation of macro-prudential policy in the banking union. Instead, its role is (lightly) confined by the duties and obligations owed to the ESRB.

The legal framework ensures an adequate flow of information gathered in supervisory practice to the ESRB in order to facilitate the fulfillment of its tasks. Hence, the relevant provisions explicitly permit the voluntary disclosure of information from the ECB (SSM) to the ESRB under the sole condition that the privacy of sensitive data is adequately protected.³⁸ Moreover, the ESRB can request relevant information from the ECB (SSM) under the same preconditions.³⁹ This indicates that the data gathered by the ECB and NCAs when fulfilling their supervisory tasks is by no means proprietary. Instead it also has to serve the purpose of allowing the ESRB to realize its macro-prudential stability objective.

Even more importantly, the ESRB can direct recommendations and warnings not only to NCAs within the SSM but also to the supervisory branch of the ECB.⁴⁰ To be sure, the legal basis of this power is not straight-forward, because the ECB obviously is not a “national supervisory authority” within the original meaning of ESRB Reg. art. 16(2). Yet, the provision has to be construed dynamically to reflect the institutional overhaul of the supervisory framework: The ECB has assumed the main supervisory functions, directly at least for the euro-area’s most significant banks,⁴¹ and thus has become the competent/supervisory authority that executes the prudential rules and standards referred to in EBA Reg. art. 1(2). It has thus become part of the European System of Financial Supervision (ESFS),⁴² a reading that is explicitly corroborated by EBA Reg. art. 2(2)(f) as amended. However, the ESRB’s

³⁷ There is considerable administrative overlap as the ESRB Secretariat is located at the ECB, cf. Council Regulation (EU) 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board, arts. 2, 3, OJ L 331, 15.12.2010, p. 162, and – more importantly – the ESRB’s Chair is the President of the ECB, Regulation No 1092/2010 of the European Parliament and of the Council of 24/11/2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board [hereinafter: ESRB Reg.] art. 5(1), OJ L 331, 15.12.2010, p. 1, its first Vice Chair is appointed by the Governing Council of the ECB, ESRB Reg. art. 5(2), with both high-ranking executives participating in the General Board’s, i.e. the ESRB’s main decision making body’s meetings, ESRB Reg. art. 6(1)(a); on the significance of the ECB’s influence on the ESRB’s operations see also Ferran and Babis 2013, p. 283.

³⁸ Regulation No 1092/2010 of the European Parliament and of the Council of 24/11/2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board [hereinafter: ESRB Reg.] art. 15(2), OJ L 331, 15.12.2010, p. 1; Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions [hereinafter: SSM Reg.] art. 27(2), OJ L 287, 29.10.2013, p. 63.

³⁹ ESRB Reg. art. 15(5)-(7); SSM Reg. art. 3(1). See also Wymeersch 2014, p. 65-66.

⁴⁰ The ESRB’s general capacity to do so follows from ESRB Reg. arts. 16(2).

⁴¹ Cf. SSM Reg. arts 4(1), 6(4). For a detailed delineation of the ECB’s tasks as a supervisor see Tröger 2014, pp. 464-70.

⁴² ESRB Reg. art. 1(3)(f) includes in the ESFS the authorities that are competent to apply supranational prudential regulations as referred to in Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC [hereinafter: EBA Reg.] art. 1(2), OJ L 331, 15.12.2010, p. 12.

power falls short of making it a momentous (macro-)prudential supervisor:⁴³ its recommendations and warnings are “enforced” through an internal “act or explain” mechanism⁴⁴ and public pressure exerted after their disclosure.⁴⁵ As a consequence, the ECB also has significant maneuvering space when it exercises its macro-prudential supervisory competences.

2.3.2 The ECB’s role in macro-prudential supervision

Ultimately, the distinct influence of the banking union on future bank-client relationships within the ambit of macro-prudential supervision depends on the ECB’s specific powers in the field – only the latter constitute an unduplicated element distinguishing supervision in the SSM-Member States form that in the EU 28.

The key power of the ECB is to top-up national macro-prudential policies⁴⁶ which includes the capacity to require macro-prudential tools to be implemented for the first time if NCAs remain inert. Hence, the ECB can push through inconvenient banking policies that – captured⁴⁷ – NCAs may shun. The institutional arrangement thus immediately reflects the key rationale for the supranationalization of supervisory powers which was intended to reduce forbearance of NCAs.⁴⁸

Moreover, with a particular view to macro-prudential supervisory objectives, the ECB has the comprehensive view on the affected economies and can ideally assess the likely interaction of supervisory measures with monetary policy in the euroarea.⁴⁹ These benefits can be reaped without incurring severe negative consequences if the ECB’s monetary policy function can be severed from its supervisory tasks without impeding the adequate flow of information.⁵⁰

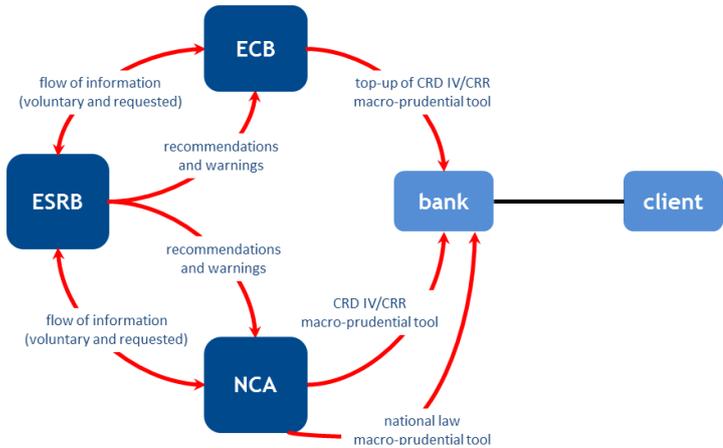


figure 2 – macro-prudential supervision in the banking union

⁴³ For a general assessment of the ESRB’s clout see Mülbart and Wilhelm 2011, p. 200; Wymeersch 2010, pp. 252–264; Moloney 2010, pp. 1332–35, 1365–72; Lamandini 2009, pp. 199–202; for a comparison of the ESRB with its US counterpart, the Financial Services Oversight Council (FSOC) see De Mincio 2010, pp. 454–457.

⁴⁴ ESRB Reg. art. 17.

⁴⁵ ESRB Reg. art. 18.

⁴⁶ SSM Reg. art. 5(2). National macro-prudential policies have to be developed in close cooperation with the ECB, cf. SSM Reg., art. 5(1).

⁴⁷ The concept describes how and when interest groups dominate regulatory decision processes, Laffont and Jean Tirole 1991, p. 1089; with a particular view to banking regulators, Hardy 2006.

⁴⁸ Tröger 2014, pp. 456–461.

⁴⁹ Smets 2014, pp. 264–265. To be sure, the close integration of macro-prudential supervision with monetary policy in the euroarea may not constitute an attractive feature for Member States whose currency is not the euro if they opt for a close cooperation and thus seek to participate in the SSM as equal partners (cf. SSM-Reg. art. 7; Wymeersch 2014, pp. 61–62). The macro-prudential function of the ECB raises specific coordination issues with national central banks not present within the euroarea. In the worst scenario, one party pushes the throttle while the other hits the break, creating a lot of heat but no progress.

⁵⁰ Generally on the challenges of mandating a central bank with banking supervision Goodhart and Schoenmaker 1995; on the institutional preconditions taken in the SSM Reg. to prevent a corruption of either

However, despite these general considerations in favor of the ECB's involvement, its role in macro-prudential policy seems severely curtailed. Unfortunately this is particularly true with regard to those markets on which exaggerated lending typically poses severe risks for financial stability.⁵¹ The ECB can only perform its supervisory tasks and implement (macro-prudential) instruments "in accordance with relevant Union law...subject to the procedures set out in the Regulation (EU) No 575/2013 and Directive 2013/36/EU in the cases specifically set out in relevant Union law".⁵² Hence, it is limited to the macro-prudential tool-kit provided by supranational law. It has no competence to initiate or modify macro-prudential measures with a legal basis only in unharmonized national law.

Given the pivotal importance of mortgage lending markets and the dubious effect of the primary CRD IV/CRR macro-prudential instruments (additional capital buffers) for these markets,⁵³ this division of competences (figure 2) is hard to square with the overall objectives of centralization in the banking union. In fact, the only promising tools through which the ECB can implement more rigid macro-prudential policies are those that indirectly reinforce (sectoral) capital requirements by augmented risk weights or LGD values.⁵⁴ The ECB has no influence on direct restrictions through LTV, LTI, and DSTI.

3 Re-instilling market discipline through the bail-in tool

Another supervisory tool that potentially influences future bank client-relationships indirectly, yet momentarily is the bail-in instrument.⁵⁵ This reorganization tool also receives a banking union twist because its implementation will be determined by supra-national authorities within the Single Resolution Mechanism (SRM). To gauge this specific effect of the banking union, the policy rationale that underpins the bail-in tool will be explored by recalling briefly the distorting effect of implicit government guarantees for bank capital⁵⁶ and the objective to re-instill market discipline by regulatory intervention that impacts on future bank client-relationships.⁵⁷ The general considerations set the stage on which the preconditions for an efficient bail-in tool can be established.⁵⁸ These serve in turn as benchmark for assessing if the banking union's bail-in tool indeed fulfills these criteria and thus can achieve the socially desirable influence on banks' activities.⁵⁹

the ECB's price stability or its supervisory mandate see Masciandaro and Nieto 2014. For potential conflicts see Tröger 2014, pp. 494-495.

⁵¹ Supra 2.2.1.

⁵² SSM Reg. art. 5(1). Generally on the competence of the ECB to apply also harmonized national law see SSM Reg., art. 4(3).

⁵³ Supra 2.2.3.

⁵⁴ Supra 2.2.2.

⁵⁵ Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, [hereinafter: BRRD] art. 44, OJ L 173, 12.6.2014, p. 190; Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 [hereinafter: SRM Reg.] art. 27, OJ L 225, 30.7.2014, p. 1.

⁵⁶ Infra 3.1.

⁵⁷ Infra 3.2.

⁵⁸ Infra 3.3.

⁵⁹ Infra 3.4.

3.1 Implicit government guarantees for bank capital (bail-out)

Government guarantees provide a lower bound to the value of assets on a bank's balance sheet and thus shift the default probability downward compared to a model with endogenously determined (asset valuation process) bank failure. Banks that benefit from implicit guarantees – because they are

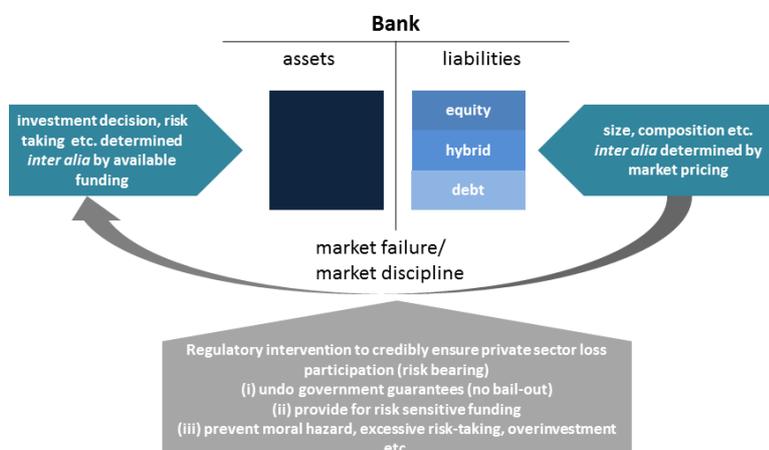


figure 3 - risk insensitive funding and regulatory intervention through bail-in tool

deemed “too big/important/interconnected etc. to fail”⁶⁰ – enjoy lower risk premiums and can thus raise capital from rational investors at lower prices.⁶¹ Distorted market pricing bears on the liability side of banks’ balance sheets because they can raise capital at prices that are insensitive to their risk-taking behavior. As a consequence, the government subsidy allows them to fund excessive risk-taking (moral hazard) and thus leads to inefficient investment decisions

on the asset side of their balance sheet. In essence, debt-governance doesn’t work, because financial institutions’ risk bearing capacity does not drive the pricing of their capital (no market discipline).⁶²

3.2 Regulatory intervention to re-instill market discipline (bail-in)

The observable market failure warrants regulatory intervention. The bail-in instrument seeks to address the root cause of the problem: its objective is to credibly ensure the private sector loss participation in a bank’s failure, i.e. compel risk bearing of agents who provide banks’ capital.⁶³ If effective, it undoes government guarantees (no bail-out). It thus ensures that banks funding is sensitive to the risks they are running and puts an end to excessive risk-taking, overinvestment etc. induced by moral hazard.⁶⁴

3.3 Preconditions for an effective bail-in tool

The objective of the bail-in tool to induce adequate pricing of the risk of bank failure by all those investors who provide capital to these institutions determines the preconditions under which a regu-

⁶⁰ On the rationality of bail-outs, i.e. the rescue of ailing banks with public funds, in these scenarios Macey and Holdcroft, Jr. 2011, pp. 1375–83; Tröger 2013, p. 187-190.

⁶¹ For empirical evidence of the effect see Tsesmelidakis and Merton 2012 (estimating the funding advantage of 74 U.S. financials benefiting from implicit government guarantees to sum up to \$365 bn.); Schweikhard and Tsesmelidakis 2012 (showing how model-estimated risk premiums for bank debt deviated significantly from actual market premiums charged for major U.S. banks in CDS-markets through the financial crisis).

⁶² The effect was first modelled with regard to explicit government guarantees (deposit insurance), Merton 1977; see also Merton and Bodie 1993, but can be generalized, see e.g. Adrian and Ashcraft 2012, pp. 8-10.

⁶³ Coffee Jr. 2010, p. 35; Huertas 2013, p. 168; Goodhart and Avgouleas 2014, pp. 3-5; see also Gordon and Ringe 2014, p. 2 who introduce a concept of SIFI “self-insurance” provided by subordinated term debtors;. For alternative, yet not necessarily contradicting views that understand bail-in primarily as an instrument to facilitate a large bank’s (financial conglomerate’s) swift reorganization without overly disruptive effects Sommer 2014, pp. 217-223; Binder 2014, pp. 34-35.

⁶⁴ Cf. figure 3

latory intervention can lead to efficient outcomes. The key *desideratum* is that – at least – sophisticated investors must be capable to price the risk adequately which requires an *ex ante* designation of the risk borne by investors. More specifically, a well-designed bail-in instrument needs to define a clear-cut, difficult to game trigger event (e.g. CET1 ratio), has to make bail-inable capital instruments identifiable and must allow predicting the particular consequences of the implementation of the tool (e.g. haircuts/conversions occur automatically without discretion).⁶⁵ Once implemented, the bail-in instrument must not destabilize markets. In order to prevent knock-on effects, the bail-inable instruments have to be held outside the banking sector by investors with sufficient loss-bearing capacity (e.g. insurance companies, pension funds, high-net worth individuals, hedge-funds). Under these conditions, a bank failure may become a non-disruptive event that does not imperil market participants' trust in the financial sector. Banks' reorganizations potentially become akin to those of airlines that can today fly "out of chapter 11" without jeopardizing customer confidence.

Unfortunately, sophisticated investors will find it difficult to gauge the actual risk of loss-participation under the European regime, because BRRD/SRM provide for a discretionary *ad hoc* bail-in. First of all, the trigger event is set with the competent authority's (CRR-supervisor, ECB) or the resolution authority's (RA)/Single Resolution Board's (SRB) determination that an institution "is failing or likely to fail".⁶⁶ Hence, at the outset it will be difficult to predict in which state the failing institution will be when losses have to be borne. Moreover, the RA/SRB will choose the reorganization instrument(s) from a toolbox,⁶⁷ i.e. even if resolution proceedings are initiated no bail-in automatism exists. Furthermore, although in principle the entire liability side of the failing bank's balance sheet is subject to bail-in, some classes are exempted *ex ante*, for instance debt instruments with a maturity of less than seven days.⁶⁸ Finally, the RA/SRB may grant exemptions for certain bank-creditors.⁶⁹

3.4 Key problems of bail-in tool

Although some fears may already be associated with the general exemption of certain liability classes because it may lead to regulatory arbitrage, for instance in the form of ultra-short-term inter-bank borrowing, the key problem of the European bail-in tool follows from the persistence of a political element in private sector loss participation under BRRD/SRM Reg.

The forecasting nature of the trigger event allows forbearing competent authorities to delay reorganization and resolution.⁷⁰ Hence, in this regard the impact of the banking union will depend on the stance the ECB (SSM) or – ultimately – the SRB will take *vis-à-vis* shaky banks. Although capture by local special interest seems unlikely, at least the ECB may face incentives to camouflage supervisory failures by postponing reorganization. Moreover, if supranational funds do not suffice to cover reor-

⁶⁵ Krahen and Morretti 2015, pp. 136-142; Armour 2014, pp. 20-21; Huertas 2013, p. 73. The Liikanen-Report contains a condensed view of the issue, cf. High-level Expert Group on reforming the structure of the EU banking sector 2012, pp. 103-104.

⁶⁶ BRRD, art. 32(1)(a); SRM Reg., art 18(1)(a). While the BRRD provides an option for Member States to empower their RAs to ultimately make the critical determination, BRRD, art. 32(2), the SRB is generally authorized to draw an autonomous conclusion in this regard, SRM Reg, art. 18(1) subpara. 2.

⁶⁷ BRRD, art. 37(5); SRM Reg., art. 22(4).

⁶⁸ BRRD, art. 44(1) and (2); SRM Reg., art. 27(3) and (4).

⁶⁹ BRRD, art. 44(3); SRM Reg. art. 27(5).

⁷⁰ For an instructive case study of the delayed Bankia reorganization and the negative cost effects of supervisory lenience see Dübel 2013, pp. 22 – 31.

ganization costs,⁷¹ disproportionately affected Member States may heavily pressure the SRB not to initiate the procedure.

Furthermore, the discretion of the RAs/SRB to grant exemptions *ad hoc* opens the door to a variation of conventional bail-out rationality even within the BRRD/SRM-framework. The losses that had accrued to specific classes of bank creditors were they not exempt from bail in, will have to be distributed to other creditors until the requirement of an 8% minimum loss participation of investors is fulfilled.⁷² This discretionary element of the bail-in tool which in principle can cut both ways for investors in bank debt makes it relatively hard to predict a creditor's position in the institution's failure *ex ante*. Hence, adequate pricing of the bail-in risk is fraught with considerable uncertainty.

Finally, the existence of resolution tools doesn't guarantee their time-consistent application by political agents. To be sure, the supranational rules seek to prevent that Member States bail-out national champions before the 8%-minimum loss participation of private creditors has been executed: government money may be used in recapitalizations⁷³ or temporary nationalizations⁷⁴ only after at least 8% of total liabilities have been bailed-in.⁷⁵ Obviously, such a rule may have a grossly destabilizing effect because, according to the letter of the law, the minimum bail-in has to occur also in a systemic crisis and thus may well accelerate the ride to Armageddon – a latent consequence which in turn weakens the rule's credibility from the outset. To be sure, the alternative could only lie in the candid regulatory acknowledgement that any minimum bail-in requirement is subject to a systemic exception. Hence, the credibility problem is inherent in the instrument. Yet, making it transparent has advantages because it limits the options for political agents to camouflage their actual intentions. In fact, the relevant provisions of the EU resolution regimes rest on the assumption that government support occurs in resolution or reorganization.⁷⁶ This presumption provides political maneuvering space to flag government intervention as non-resolution related. Such a defilade would allow the support of ailing banks without blatantly violating the wording of the law (albeit obviously its spirit) even though their creditors are not or insufficiently bailed-in. Counter to the legislative bodies' intentions, it is precisely the quasi-perfectionist aspiration of a highly elaborate regulation that may defeat

⁷¹ The Single Resolution Fund (SRF) – regardless of the doubts pertaining to its size which is set at 1% of covered deposits in the euroarea (roughly € 55 bn) cf. SRM Reg. art. 69(1) and European Commission 2014 – will be filled slowly and mutualization of the paid in means will occur only gradually. The SRF will start with national compartments that bear the resolution costs of banks that were licensed in the pertinent Member State in the first place. Over a transitional period an incremental portion of all the paid in means of the SRF (starting at 40% in 2016, jumping to 60% in 2017 and rising by additional 6.66% each subsequent year) may be deployed to fund resolutions occurring in any participating Member State if the pertinent national compartment proves insufficient. See Intergovernmental Agreement on the transfer and mutualisation of contributions to the Single Resolution fund, arts. 1(b); 5(a), (b); 12(2), May 14, 2014, <http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%208457%202014%20INIT>.

⁷² BRRD art. 44(5)(a); SRM Reg. art. 27(7)(a).

⁷³ BRRD art. 57.

⁷⁴ BRRD art. 58.

⁷⁵ BRRD arts. 37(10), 56(1). The SRM Reg. naturally does not deal with extraordinary government stabilization tools because the supranational resolution authorities are in no position to initiate national bail-outs.

⁷⁶ Cf. BRRD art. 56(1) which stipulates that public support occurs “for the purpose of participating in the resolution of an institution or an entity referred to in point (b), (c) or (d) of Article 1(1), including by intervening directly in order to avoid its winding up”.

its rationale which lies in constraining political agents.⁷⁷ Ultimately, the outcome will hinge on the Commission's stance on state aid in these instances.⁷⁸

4 Conclusion

The macro-prudential and the bail-in instruments of European banking regulation constitute tools of public governance that impact on newly established bank-client relationships. However, none of these supervisory powers allows to intervene directly in existing contracts.

The banking union establishes the ECB to safeguard the impartial and non-forbearing enforcement of the regulatory framework also with regard to macro-prudential measures. This is particularly relevant, if the effect on financial stability and growth is considered that the implementation of macro-prudential policy potentially exerts. However, the analysis shows that the policy objectives of the institutional overhaul seem somewhat insufficiently transposed when it comes to limit excessive credit growth in overheated real estate markets – arguably a litmus-test for the regulatory regime's effectiveness.

The resolution framework established through the BRRD/SRM Reg. provide for a discretionary ad hoc bail-in. It thus compromises the key objective of the governance tool to provide for an inevitable, ex ante transparent private sector loss participation in the event of a financial institution's failure. To be sure, markets will place probabilities on the possible decisions of resolution authorities and other (political) agents.⁷⁹ Yet, as a consequence, default probabilities will continue to deviate from endogenously determined bank failures. Hence, distorted pricing of bank debt will continue and disruptive effects of sudden corrections in the pertinent expectations will loom also in the future.

In sum, the banking union alters the regulatory and procedural determinants that bear on individual bank-client relationships. Yet, it falls short of achieving the social optimum or at least a second-best real world solution.

5 References

- Admati A and Hellwig M (2013) *The Bankers' New Clothes*. Princeton University Press, Princeton
- Adrian T and Ashcraft AB (2012) *Shadow Banking Regulation*, Federal Reserve of New York Staff Reports No. 559, http://www.newyorkfed.org/research/staff_reports/sr559.pdf.
- Armour J (2014) *Making Bank Resolution Credible*, ECGI Law Working Paper No. 244/2014, <http://ssrn.com/abstract=2393998>
- Bank of England (2009) *The role of macroprudential policy*, Discussion Paper, <http://www.bankofengland.co.uk/publications/Documents/other/financialstability/roleofmacroprudentialpolicy091121.pdf>

⁷⁷ In a sense, the simple rule of Dodd-Frank Wall Street Reform and Consumer Protection Act § 214 may work better in the political sphere: it seems much harder to find a pettifoggery argument to justify the legality of future ad hoc bail-outs in the US. The rule thus is more likely to force political decision makers to confess their intentions and defend them in a democratic discourse.

⁷⁸ The general attitude of the Commission can be inferred from its Banking Communication, Communication from the Commission on the application, from 1 August 2013, of State aid rules to support measures in favour of banks in the context of the financial crisis, OJ C 216, 30.7.2013, p. 1. Moreover, at least the then incumbent Commission stood its ground in the face of high-level calls not to destroy investor confidence with harsh bail-in rules, Barker 2013.

⁷⁹ On this aspect see also Gleeson 2012, pp. 8-10.

- Barker A (2013) Brussels stands ground against Mario Draghi over bailout curbs, Financial Times Online Oct. 20, <http://www.ft.com/cms/s/0/13cc9614-397f-11e3-a3a4-00144feab7de.html>
- Binder JH (2014) Resolution: Concepts, Requirements and Tools, Working Paper, <http://ssrn.com/abstract=2499613>
- BIS (2011) Central Bank Governance and Financial Stability, <http://www.bis.org/publ/othp14.pdf>
- Borio C (2003) Towards a Macroprudential Framework for Financial Supervision and Regulation?. CESifo Economic Studies 49: 181–216
- Borio C (2009) Implementing the macroprudential approach to financial regulation and supervision. Banque de France Financial Stability Review No. 13: 31-41
- Borio C and Drehmann M (2009) Assessing the risk of banking crises – revisited, BIS Q Rev 2009(3) pp. 29-46
- Burries S, Kempa M, Shearing C (2008) Changes in Governance: A Cross-Disciplinary Review of Current Scholarship. Akron L Rev 41: 1-66
- CGFS (2012) Operationalising the selection and application of macroprudential instruments, CGFS Publication No. 48, <https://www.bis.org/publ/cgfs48.pdf>
- Coffee Jr. J (2010), Bail-Ins Versus Bail-Outs: Using Contingent Capital to Mitigate Systemic Risk, Columbia Law and Economics Working Paper No. 380, <http://ssrn.com/abstract=1675015>
- De Mincio G (2010) Regulators and Rules—President Obama’s Reforms vs. Europe’s Reforms, EBLR 21: 451-461
- Dewatripont M and Tirole J (2012) Macroeconomic Shocks and Banking Regulation, JMCB 44: 237-254
- Dübel HJ (2013) The Capital Structure of Banks and Practice of Bank Restructuring, Center for Financial Studies Working Paper No. 04/2013, https://www.ifk-cfs.de/fileadmin/downloads/publications/wp/2013/CFS_WP_2013-4.pdf.
- ECB (2010) Macro-prudential Policy Objectives and Tools. ECB Financial Stability Review (June): 129–37
- ECB (2015) Decision of the ECB of 4 March 2015 on a secondary markets public sector asset purchase programme (ECB/2015/10), https://www.ecb.europa.eu/ecb/legal/pdf/en_dec_ecb_2015_10_f_.sign.pdf
- ESRB (2014) The ESRB Handbook on Operationalising Macro-prudential Policy in the Banking Sector, https://www.esrb.europa.eu/pub/pdf/other/140303_esrb_handbook.pdf?bac2ce5e1f109ffe0c97568d2b8bb2f7
- European Commission (2013) Capital Requirements - CRD IV/CRR – Frequently Asked Questions, http://europa.eu/rapid/press-release_MEMO-13-690_en.pdf
- European Commission (2014) Press Release, A Single Resolution Mechanism for the Banking Union, http://europa.eu/rapid/press-release_MEMO-14-295_en.pdf
- Ferran E and Babis V (2013) The European Single Supervisory Mechanism, JCLS 13: 255-286
- Ferrarini G and Chiarella L (2013) Common Supervision in the Eurozone: Strengths and Weaknesses, ECGI Law Working Paper No. 223/2013, <http://ssrn.com/abstract=2309897>
- Gleeson S (2012) Legal Aspects of Bail-Ins, LSE Financial Markets Group Special Paper 205, <http://www.lse.ac.uk/fmg/workingPapers/specialPapers/PDF/SP205.pdf>
- Goodhart C and Avgouleas E (2014) A Critical Evaluation of Bail-Ins as Bank Recapitalisation Mechanisms, CEPR Discussion Paper10065, <http://ssrn.com/abstract=2478647>
- Goodhart C and Schoenmaker D (1995) Should the Functions of Monetary Policy and Banking Supervision Be Separated?. Oxford Economic Papers 47: 539-560

- Gordon, JN and Ringe, WG (2014) Bank Resolution in the European Banking Union: A Transatlantic Perspective on What it Would Take, Oxford Legal Studies Research Paper No. 18/2014, Columbia Law and Economics Working Paper No. 465, <http://ssrn.com/abstract=2361347>
- Hanson SG, Kashyap AK and Stein JC (2011) A Macroprudential Approach to Financial Regulation, JEP 25: 3–28
- Hardy DC (2006) Regulatory Capture in Banking, International Monetary Fund Working Paper No. 34, <http://www.imf.org/external/pubs/ft/wp/2006/wp0634.pdf>
- High-level Expert Group on reforming the structure of the EU banking sector (2012) Final Report, http://ec.europa.eu/finance/bank/docs/high-level_expert_group/report_en.pdf
- Huertas TF (2013) The Case for Bail-ins. In Dombret A and Kenadjian PS (eds.) The Bank Recovery and Resolution Directive – Europe’s Solution for “Too Big To Fail”? de Gruyter, Berlin
- Jordà O, Schularick M and Taylor AM (2014) The Great Mortgaging: Housing Finance, Crises, and Business Cycles, NBER Working Paper No. 20501, <http://www.nber.org/papers/w20501.pdf>
- Kjaer AM (2004) Governance. Polity Press, Cambridge
- Korinek A (2014) International Spillovers and Guidelines for Policy Cooperation, Working Paper, <http://www.korinek.com/download/Spillovers.pdf>
- Krahnen JP and Morretti L (2015) Bail-In Clauses. In Faia E, Hackethal A, Halliassos M, Langenbucher K (eds.) Financial Regulation. Cambridge University Press, Cambridge
- Laffont JJ and Tirole J (1991) The Politics of Government Decision Making: A Theory of Regulatory Capture, QJE 106: 1089-1127
- Lamandini M (2009) When More Is Needed: The European Financial Supervisory Reform and Its Legal Basis, ECL 6: 197-202
- Lautenschläger S (2014) The interplay between macro-prudential, micro-prudential and monetary policies at the ECB, Slides from the presentation at the conference “Macroprudential policy: Implementation and Interaction with other Policies”, Stockholm Nov. 13, 2014, <https://www.ecb.europa.eu/press/key/date/2014/html/sp141113.en.pdf?ecc224b3598915181ad17152ad62ddc9>
- Macey JR and Holdcroft, Jr., JP (2011) Failure Is an Option: An Ersatz-Antitrust Approach to Financial Regulation, Yale LJ 120: 1368-1418.
- Masciandaro D and Nieto M (2014) Governance of the Single Supervisory Mechanism: Some Reflections, Baffi Center Research Paper No. 149, <http://ssrn.com/abstract=2384594>
- Merton RC (1977) An Analytical Derivation of the Cost of Deposit Insurance and Loan Guarantees, JBF 1: 3-11
- Merton RC and Bodie Z (1993) Deposit Insurance Reform: A Functional Approach, Carnegie-Rochester Conference on Public Policy 38: 1-34
- Moloney N (2010) EU Financial Market Regulation After the Global Financial Crisis: ‘More Europe’ or More Risk? CMLR 47: 1317-1383
- Morris S and Shin HS (2008) Coordinating Expectations in Monetary Policy. In Touffut JP (ed.) Central Banks as Economic Institutions. Edward Elgar Publishing, Northampton
- Mülbert PO and Wilhelm A (2011) Reforms of EU Banking and Securities Regulation After the Financial Crisis, Banking and Financial Law Review 26: 187-231
- Myers SC and Majluf NS (1984) Corporate financing and investment decisions when firms have information that investors do not have, JFE 13: 187–221
- Pierre J (2000) Introduction: Understanding Governance. In: Pierre J (ed.), Debating Governance. Oxford University Press, Oxford, pp.1-10

- Reinhart CM and Rogoff KS (2009) *This Time is Different: Eight Centuries of Financial Folly*. Princeton, Princeton University Press
- Schweikhard FA and Tsesmelidakis Z (2012) *The Impact of Government Interventions on CDS and Equity Markets*, American Finance Association 2012 Chicago Meetings Working Paper, <http://ssrn.com/abstract=1573377>
- Smets F (2014) *Financial Stability and Monetary Policy: How Closely Interlinked?*, *International Journal of Central Banking* 10: 263-300
- Sommer JH (2014) *Why Bail-In? And How!*, *Federal Reserve Bank of New York Economic Policy Review* 20(2): 207-228.
- Tsesmelidakis Z and Merton RC (2012) *The Value of Implicit Guarantees*, Working Paper, <http://ssrn.com/abstract=2231317>
- Tröger TH (2013) *Organizational Choices of Banks and the Effective Supervision of Transnational Financial Institutions*, *TILJ* 48: 178-220
- Tröger TH (2014) *The Single Supervisory Mechanism - Panacea or Quack Banking Regulation?* *EBOR* 15: 449-497
- Williamson O (2005) *The Economics of Governance*. *AER* 95: 1-18
- Woodford M (2005) *Central-bank Communication and Policy Effectiveness*, NBER Working Paper No. 11898, doi:10.3386/w11898
- Wymeersch E (2010) *The Reforms of the European Financial Supervisory System*, *ECFR* 7: 240-265
- Wymeersch E (2014) *The Single Supervisory Mechanism or "SSM", Part One of the Banking Union*, National Bank of Belgium Working Paper No. 255, <http://ssrn.com/abstract=2427577>

IMFS WORKING PAPER SERIES

Recent Issues

92 / 2015	Janis Skrastins Vikrant Vig	How Organizational Hierarchy Affects Information Production
91 / 2015	Florian Hoffmann Roman Inderst Marcus Opp	Regulating Deferred Incentive Pay
90 / 2015	Helmut Siekmann	The Legality of Outright Monetary Transactions (OMT) of the European System of Central Banks
89 / 2015	Helmut Siekmann	The Legal Framework for the European System of Central Banks
88 / 2015	Florian Deuflhard Dimitris Georgarakos Roman Inderst	Financial Literacy and Savings Account Returns
87 / 2015	Falko Fecht Roman Inderst Sebastian Pfeil	A Theory of the Boundaries of Banks with Implications For Financial Integration and Regulation
86 / 2015	Markus Behn Rainer Haselmann Thomas Kick Vikrant Vig	The Political Economy of Bank Bailouts
85 / 2014	Elena Afanasyeva Jochen Güntner	Lending Standards, Credit Booms and Monetary Policy
84 / 2014	Athanasios Orphanides	Are Rules and Boundaries Sufficient to Limit Harmful Central Bank Discretion? Lessons from Europe
83 / 2014	Tobias H. Tröger	How Special Are They? – Targeting Systemic Risk by Regulating Shadow Banking
82 / 2014	Markus Behn Rainer Haselmann Vikrant Vig	The Limits of Model-Based Regulation
81 / 2014	Volker Wieland Maik Wolters	Is there a threat of self-reinforcing deflation in the Euro area? A view through the lens of the Phillips curve
80 / 2014	Hermann Remsperger	Der makroprudenzielle Komplex: der Prozess, das Schloss, das Urteil
79 / 2014	Athanasios Orphanides	What Happened in Cyprus? The Economic Consequences of the Last Communist Government in Europe
78 / 2014	Michael Binder Marcel Bluhm	On the Conditional Effects of IMF Loan Program Participation on Output Growth

77 / 2014	Helmut Siekmann	Zur Offenlegung der Bezüge von Sparkassenführungskräften im Internet
76 / 2013	Y. Emily Yoo	Financial Regulation and Supervision Across Business Lines in the United States – Financial Holding Companies post Gramm-Leach-Bliley Act
75 / 2013	Athanasios Orphanides	Is Monetary Policy Overburdened?
74 / 2013	Tilman Bletzinger Volker Wieland	Estimating the European Central Bank's "Extended Period of Time"
73 / 2013	Tobias H. Tröger	The Single Supervisory Mechanism – Panacea or Quack Banking Regulation?
72 / 2013	Matthias Burgert Sebastian Schmidt	Dealing with a Liquidity Trap when Government Debt Matters: Optimal Time-Consistent Monetary and Fiscal Policy
71 / 2013	Helmut Siekmann Volker Wieland	The European Central Bank's Outright Monetary Transactions and the Federal Constitutional Court of Germany (publ. partially as "The question before the court", in: Economist, June 18, 2013)
70 / 2013	Elena Afanasyeva	Atypical Behavior of Credit: Evidence from a Monetary VAR
69 / 2013	Tobias H. Tröger	Konzernverantwortung in der aufsichtsunterworfenen Finanzbranche (publ. in: ZHR 2013, S. 475-517)
68 / 2013	John F. Cogan John B. Taylor Volker Wieland Maik Wolters	Fiscal Consolidation Strategy: An Update for the Budget Reform Proposal of March 2013
67 / 2012	Otmar Issing Volker Wieland	Monetary Theory and Monetary Policy: Reflections on the Development over the last 150 Years
66 / 2012	John B. Taylor Volker Wieland	Surprising Comparative Properties of Monetary Models: Results from a new Model Database
65 / 2012	Helmut Siekmann	Missachtung rechtlicher Vorgaben des AEUV durch die Mitgliedstaaten und die EZB in der Schuldenkrise (publ. in: Thomas M.J. Möller und Franz-Christoph Zeitler (ed.), Europa als Rechts-gemeinschaft – Währungsunion und Schuldenkrise, Tübingen 2013, pp.97-154)
64 / 2012	Helmut Siekmann	Die Legende von der verfassungs-rechtlichen Sonderstellung des „anonymen“ Kapitaleigentums (publ. in: Der grundrechtsgeprägte Verfassungsstaat, Festschrift für Klaus Stern zum 80. Geburtstag, herausgegeben von Michael Sachs und Helmut Siekmann, Berlin, 2012, pp. 1527-1541)